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Education

Ph.D. University of California, Santa Barbara, Physics, September 1998
B.A. Pomona College, Physics and Mathematics (summa cum laude), May 1992

Appointments

Principal Member of Technical Staff, Sandia National Laboratories, Oct. 2006 – present
Senior Member of Technical Staff, Sandia National Laboratories, May 2003 – Oct. 2006
Postdoctoral Appointee, Sandia National Laboratories, Oct. 2000 – May 2003
Postdoctoral Fellow, ExxonMobil Research and Engineering Co., Oct. 1998 – Oct. 2000
NSF Fellow, Graduate Student Researcher, Doctoral Scholar Fellow, and UC President's Dissertation
Year Fellow, Department of Physics, University of California, Santa Barbara, Sept. 1992-Sept. 1998

Recent Publications

1. A. L. Frischknecht, M. J. A. Hore, J. Ford, and R. J. Composto, *Dispersion of polymer-grafted nanorods in homopolymer films: theory and experiment*, Macromolecules **46**, 2856 (2013).
2. D. S. Bolintineanu, M. J. Stevens, and A. L. Frischknecht, *Atomistic simulations predict a surprising variety of morphologies in precise ionomers*, ACS Macro Lett. **2**, 206 (2013).
3. L. M. Hall, M. J. Stevens, and A. L. Frischknecht, *Dynamics of model ionomer melts of various architectures*, Macromolecules **45**, 8097 (2012).
4. A. L. Frischknecht, V. Padmanabhan, and M. E. Mackay, *Surface-induced phase behavior of polymer/nanoparticle blends with attractions*, J. Chem. Phys. **136**, 146904 (2012).
5. L. M. Hall, M. E. Seitz, K. I. Winey, K. L. Opper, K. B. Wagener, M. J. Stevens, and A. L. Frischknecht, *Ionic aggregate structure in ionomer melts: effect of molecular architecture on aggregates and the ionomer peak*, J. Am. Chem. Soc. **134**, 574 (2012).
6. A. D. Price, S. M. Hur, G. H. Fredrickson, A. L. Frischknecht, and D. L. Huber, *Exploring lateral microphase separation in mixed polymer brushes by experiment and self-consistent field theory simulations*, Macromolecules, **45**, 510 (2012).
7. M. J. A. Hore, A. L. Frischknecht, and R. J. Composto, *Nanorod assemblies in polymer films and their dispersion-dependent optical properties*, ACS Macro Lett, **1**, 115 (2012).
8. V. Padmanabhan, A. L. Frischknecht, and M. E. Mackay, *Effect of chain stiffness on nanoparticle segregation in polymer/nanoparticle blends near a substrate*, Macromol. Theory Simul. **21**, 98 (2012).
9. S. M. Hur, A. L. Frischknecht, D. L. Huber, and G. H. Fredrickson, *Self-consistent field simulations of self- and directed-assembly in a mixed polymer brush*, Soft Matter **7**, 8776 (2011).
10. A. L. Frischknecht and A. Yethiraj, *Two- and three-body interactions among nanoparticles in a polymer melt*, J. Chem. Phys. **134**, 174901 (2011).
11. L. M. Hall, M. J. Stevens, and A. L. Frischknecht, *Effect of polymer architecture and ionic aggregation on the scattering peak in model ionomers*, Phys. Rev. Lett., **106**, 127801 (2011).
12. A. L. Frischknecht, E. S. McGarrity, and M. E. Mackay, *Expanded chain dimensions in polymer melts with nanoparticle fillers*, J. Chem. Phys. **132**, 204901 (2010).

13. J. Z. Jin, J. Z. Wu, and A. L. Frischknecht, *Modeling microscopic morphology and mechanical properties of block copolymer/nanoparticle composites*, Macromolecules **42**, 7537 (2009).
14. E. S. McGarry, A. L. Frischknecht, and M. E. Mackay, *Phase behavior of polymer-nanoparticle blends near a substrate*, J. Chem. Phys. **128**, 154904 (2008)

Recent Invited Talks

- *Coarse-grained Simulations of Ion-Containing Polymers*, Physics Department Colloquium, Pomona College, Claremont, California, April 16, 2013.
- *Simulation of Ionic Aggregation and Ion Dynamics in Ionomers*, Department of Chemistry Seminar, Clemson University, Clemson, South Carolina, January 24, 2013.
- *Simulation of Ionic Aggregation and Dynamics in Ion-Containing Polymers*, Juelich Soft Matter Days 2012, Bad Honnef, Germany, November 15, 2012.
- *Dispersion of Polymer-Grafted Gold Nanorods in a Homopolymer Matrix*, Joint NSRC Workshop on Nanoparticle Science, Argonne National Laboratory, Lemont, IL, Nov. 5, 2012.
- *Ionic Aggregation and Ion Dynamics in Ionomer Melts*, Molecular Foundry User Meeting 2012, Berkeley, California, October 5, 2012.
- *Simulation of Ionic Aggregation and Ion Dynamics in Model Ionomers*, APS March Meeting, Boston, Massachusetts, March 1, 2012.
- *Morphologies in Ion-Containing Polymers*, Graduate Research Seminar, Department of Physics, University of Texas at San Antonio, San Antonio, Texas, October 28, 2011.
- *Modeling Polymer Nanocomposites*, CMET Seminar, University of Delaware, Newark, Delaware, May 11, 2011.
- *Molecular Modeling of Phase Behavior in Polymer Nanocomposites*, Gordon Research Conference on Polymer Physics, Mt. Holyoke College, Massachusetts, June 29, 2010.

Honors

- Employee Recognition Award, Sandia National Laboratories (2013)
 Fellow of the American Physical Society (2012)
 UC President's Dissertation Year Fellowship (1997-1998)
 UCSB Doctoral Scholar Fellowship (1996-1997)
 NSF Fellowship (1992-1995)

Professional Service

- Member-at-Large, Executive Committee of the Division of Polymer Physics, American Physical Society, 2013-2015
 Editorial Advisory Board, *Macromolecules* and *ACS Macro Letters*, 2012-2014.
 Reviewer for: DOE-BES, NSF, Phys Rev E, Macromolecules, ACS Macro Lett, J Chem Phys
 Nominating Committee, Division of Polymer Physics of the American Physical Society, March 2007-March 2008; March 2009-March 2010.

Postdocs Supervised:

Erin S. McGarry, Venkat Padmanabhan, Lisa M. Hall, Dan S. Bolintineanu, Christina L. Ting

Advisors:

James S. Langer and Glenn H. Fredrickson, UC Santa Barbara (Ph.D. advisors); Scott T. Milner, Penn State (postdoc advisor); John G. Curro, University of New Mexico (postdoc advisor).